

REMARKS

Applicants gratefully acknowledge withdrawal of the previous obviousness rejection of their claims based on JP 56-103131 ("Nagata et al"). Applicants respectfully submit that their claimed invention is patentable in the face of the new rejection.

Rejection under 35 U.S.C. 103

Claims 6-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over JP 56-103131 ("Nagata et al") in view of U.S. Patent 3,810,940 ("Hauser et al"). Applicants note by way of preliminary comment that they will refer as appropriate to the previously submitted uncertified translation of Nagata et al. Applicants respectfully traverse.

In view of the withdrawal of the previous rejection based on Nagata et al, it is undisputed that this reference would not itself lead those skilled in the art to Applicants' claimed invention. However, certain points raised in Applicants' previous Amendment dated April 26, 2007, are relevant to the present rejection and will be repeated in summary fashion.

Nagata et al discloses a process for preparing carboxylic acid chlorides such as phthaloyl chloride by reaction of the corresponding carboxylic acid anhydride with phosgene in the presence of a catalyst such as dimethylformamide (i.e., DMF) at 50°C to 120°C, where the phosgene is fed into the reaction mixture at a rate such that unreacted phosgene is essentially undetectable in the waste gas. As previously pointed out, Applicants' claimed invention differs from the teachings of Nagata et al in at least two ways. First, in the process disclosed in Nagata et al, dimethylformamide is already present before phosgene is introduced, whereas Applicants require the independent introduction of both the phosgene and the N,N-dialkylformamide over the course of the reaction. Second, Nagata et al teaches that the rate at which phosgene is introduced must be low to avoid converting the catalyst to a tar-like substance (with data in the examples showing that introduction of phosgene at rates greater than 10 g/hr (ca. 0.2 mol/hr) – even at the only marginally greater rate of 11 g/hr (ca. 0.22 mol/hr) – provide inferior results), whereas Applicants' claimed process provides consistently high yields despite requiring the phosgene to be introduced at a rate greater than what Nagata et al specifically teaches would produce inferior results. Since Nagata et al teaches a method in which only the


phosgene is introduced at a controlled rate and further teaches that the rate must be kept low to avoid degrading the catalyst, it is clear that Nagata et al alone would not suggest the parameters specified by Applicants.

Applicants respectfully submit that the newly cited Hauser et al would not lead those from Nagata et al to their claimed invention. Hauser et al discloses a process of preparing carboxylic acid chlorides by catalyzed reaction of intramolecular (i.e., cyclic) anhydrides with phosgene in the presence of a carboxamide catalyst and an inert aromatic organic solvent at elevated temperatures up to the boiling point of the solvent. E.g., column 1, lines 31-43. Hauser et al specifically teaches that "the phosgene is bubbled through the catalyzed reaction mixture while the mixture is being stirred and heated." See column 2, lines 61-63. The term "catalyzed reaction mixture" can only be read to mean that the carboxamide is already present before the phosgene is added. Hauser et al thus suffers from the first of the deficiencies of Nagata et al summarized above. Furthermore, Example IV (cited in the Final Office Action) reports a modest yield of only 71% when carried out using 1.1 moles of phosgene per mol of phthalic anhydride (i.e., a ratio less than that specified by Applicants) over a period of five hours (i.e., at a rate of about 0.22 mol/hr, near the minimum specified by Applicants). Hauser et al thus also suffers from the second of the deficiencies of Nagata et al summarized above. Since Hauser et al – just as Nagata et al – teaches a method in which only the phosgene is introduced at a controlled rate and further teaches relatively lower quantities at low rates, it is clear that Hauser et al adds nothing to Nagata et al that would lead those skilled in the art to Applicants' specified parameters.

Applicants therefore respectfully submit that their claimed invention is not rendered obvious by Nagata et al in view of Hauser et al.

In view of the preceding amendments and remarks, allowance of the claims is respectfully requested.

Respectfully submitted,

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